## METHOD FOR OPTIMIZING A SOLUTION SET

## ABSTRACT OF THE DISCLOSURE

An embodiment of a method for optimizing a solution set has steps of generating a first solution set, selecting a second solution set from the first, fitting the second solution set with a probabilistic model, using the model to generate a new set of solutions, replacing at least a portion of the first set of solutions with the third, and evaluating the third set to determine if completion criteria have been met. A probabilistic model may allow for merging a plurality of variables into a single variable and for modeling relationships between the merged variables over multiple hierarchical levels. Invention method embodiments may also comprise steps of niching to preserve diversity among the solution set.